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☐ 1: P05364. Beta-lactamase pr...[gi:113727]

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LOCUS P05364 381 aa linear BCT 15-JUN-2002  
 DEFINITION Beta-lactamase precursor (Cephalosporinase)..  
 ACCESSION P05364  
 VERSION P05364 GI:113727  
 DBSOURCE swissprot: locus AMPC\_ENTCL, accession P05364;  
 class: standard.  
 created: Nov 1, 1988.  
 sequence updated: Nov 1, 1988.  
 annotation updated: Jun 15, 2002.  
 xrefs: gi: [42260](#), gi: [42261](#), gi: [41970](#), gi: [41971](#), gi: [42611](#), gi: [757841](#), gi: [67778](#), gi: [67777](#), gi: [67776](#), pdb accession 1BLS, pdb accession 2BLT  
 xrefs (non-sequence databases): MEROPSS12.UNW, InterProIPR001466, InterProIPR001586, PfamPF00144, PROSITEPS00336  
 KEYWORDS Hydrolase; Antibiotic resistance; Periplasmic; Signal; 3D-structure.  
 SOURCE Enterobacter cloacae  
 ORGANISM Enterobacter cloacae  
 Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales; Enterobacteriaceae; Enterobacter.  
 REFERENCE 1 (residues 1 to 381)  
 AUTHORS Galleni,M., Lindberg,F., Normark,S., Cole,S., Honore,N., Joris,B. and Frere,J.M.  
 TITLE Sequence and comparative analysis of three Enterobacter cloacae ampC beta-lactamase genes and their products  
 JOURNAL Biochem. J. 250 (3), 753-760 (1988)  
 MEDLINE [88268750](#)  
 PUBMED [3260487](#)  
 REMARK SEQUENCE FROM N.A.  
 STRAIN=P99, Q908R, and MHN1  
 REFERENCE 2 (residues 1 to 381)  
 AUTHORS Lobkovsky,E., Moews,P.C., Liu,H., Zhao,H., Frere,J.M. and Knox,J.R.  
 TITLE Evolution of an enzyme activity: crystallographic structure at 2-A resolution of cephalosporinase from the ampC gene of Enterobacter cloacae P99 and comparison with a class A penicillinase  
 JOURNAL Proc. Natl. Acad. Sci. U.S.A. 90 (23), 11257-11261 (1993)  
 MEDLINE [94068583](#)  
 PUBMED [8248237](#)  
 REMARK X-RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS).  
 STRAIN=P99  
 REFERENCE 3 (residues 1 to 381)  
 AUTHORS Lobkovsky,E., Billings,E.M., Moews,P.C., Rahil,J., Pratt,R.F. and Knox,J.R.  
 TITLE Crystallographic structure of a phosphonate derivative of the Enterobacter cloacae P99 cephalosporinase: mechanistic interpretation of a beta-lactamase transition-state analog  
 JOURNAL Biochemistry 33 (22), 6762-6772 (1994)  
 MEDLINE [94263990](#)  
 PUBMED [8204611](#)  
 REMARK X-RAY CRYSTALLOGRAPHY (2.3 ANGSTROMS).  
 STRAIN=P99  
 COMMENT -----

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[FUNCTION] THIS PROTEIN IS A SERINE BETA-LACTAMASE WITH A SUBSTRATE SPECIFICITY FOR CEPHALOSPORINS.

[CATALYTIC ACTIVITY] A beta-lactam + H(2)O = a substituted beta-amino acid.

[SUBCELLULAR LOCATION] Periplasmic (By similarity).

[MISCELLANEOUS] THE SEQUENCE SHOWN IS THAT OF STRAIN P99.

[SIMILARITY] BELONGS TO THE CLASS-C BETA-LACTAMASE FAMILY.

FEATURES	Location/Qualifiers
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gene	1..381 /gene="AMPC"
Protein	1..381 /gene="AMPC" /product="Beta-lactamase precursor" /EC_number="3.5.2.6"
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Region	3 /gene="AMPC" /region_name="Variant" /note="R -> I (IN STRAIN MHN1)."
Region	14 /gene="AMPC" /region_name="Variant" /note="I -> L (IN STRAIN MHN1)."
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Region	36 /gene="AMPC" /region_name="Variant" /note="I -> V (IN STRAINS MHN1 AND Q980R)."
Region	43..44 /gene="AMPC" /region_name="Hydrogen bonded turn"
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## ORIGIN

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Revised: August 5, 2002.

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